PB90-185414

Report on the Status of Chemicals in the Special Review Program and Registration Standards in the Reregistration Program, December 1989

(U.S.) Environmental Protection Agency, Washington, DC

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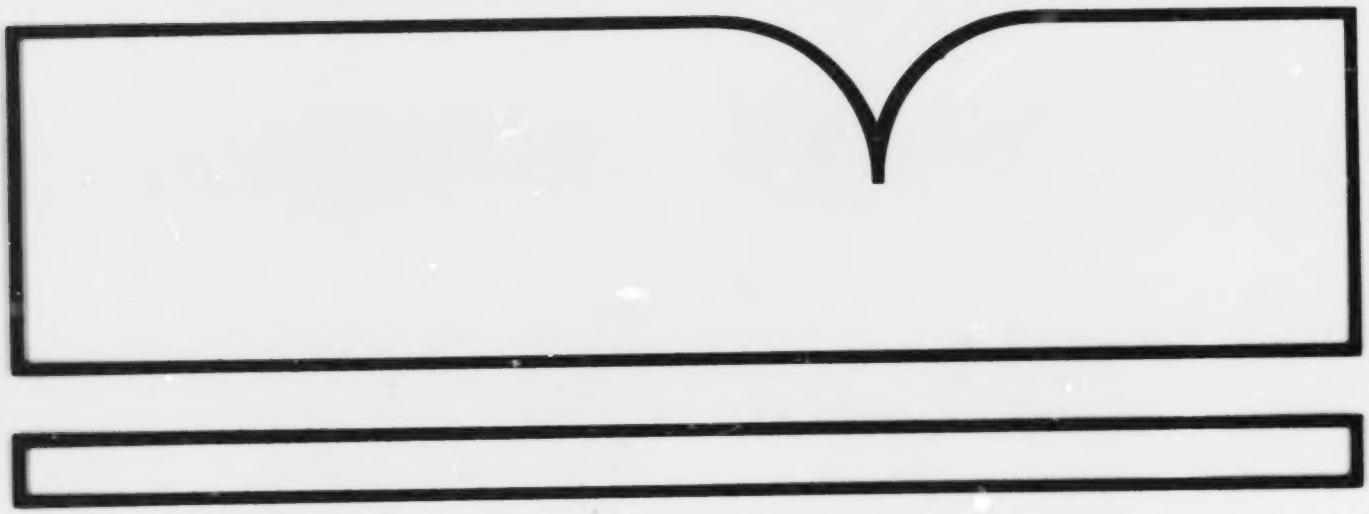

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16. Abstract (Limit: 200 words)

This publication contains: 1) an alphabetical listing of all chemicals which have been or are being handled under the Special Review Process, 2) an alphabetical listing of the chemicals which have been through or are now active in the ReRegistration Process. Overviews of both programs are presented.

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Report on the Status of Chemicals in the Special Review Program and Registration Standards in the Reregistration Program

December 1989

Office of Pesticide Programs
U.S. Environmental Protection Agency
Washington, D.C. 20460

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REPORT ON THE STATUS OF CHEMICALS IN THE SPECIAL REVIEW PROGRAM AND REGISTRATION STANDARDS IN THE REREGISTRATION PROGRAM

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REPORT ON THE STATUS
OF
CHEMICALS IN THE SPECIAL REVIEW PROGRAM
AND
REGISTRATION STANDARDS IN THE REREGISTRATION PROGRAM

Preface

This report presents an overview of the Special Review process and the Reregistration process followed by alphabetical listings of all chemicals which have been or are currently in Special Review and all chemicals for which Registration Standards have been issued or are scheduled to be issued. The Special Review and Reregistration programs are managed by the Special Review and Reregistration Division, Office of Pesticide Programs.

Copies of Position Documents and Registration Standards are available to the public through the National Technical Information Service (NTIS), ATTN: Order Desk, 5285 Port Royal Road, Springfield, Virginia 22161, (703) 487-4650. When requesting a document from NTIS, state the name of the document and the NTIS publication number (PB).

For a complete list of documents available from NTIS with prices, contact the Document Management Section, Information Services Branch, Program Management and Support Division (H7502C), Office of Pesticide Programs, EPA, Washington, D.C. 20460. Draft Registration Standards are available from the Public Information Branch, Field Operations Division (H7506C), Office of Pesticide Programs, EPA, Washington, D.C. 20460.

SPECIAL REVIEW AND REREGISTRATION DIVISION

OFFICE OF PESTICIDE PROGRAMS

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Status
of
Chemicals in the Special Review Program

December 1989

Office of Pesticide Programs
U.S. Environmental Protection Agency
Washington, D.C. 20460

STATUS

CHEMICALS IN THE SPECIAL REVIEW PROGRAM

Introduction 1-1 - 1-2

Special Reviews in Process 1-3 - 1-7

Alachlor
Aldicarb
Amitrole
Carbofuran
2,4-D [also 2,4-DB and 2,4-DP]
Daminozide
1,3-Dichloropropene
Dichlorvos (DDVP)
EBDCs
Ethylene Oxide
Inorganic Arsenicals (non-wood use)
Pentachlorophenol (non-wood use)
TPTH (Triphenyltin hydroxide)
Tributyltins (antifoulant use)

Special Reviews Completed 1-8 - 1-21

Amitraz
Benomyl
Cadmium
Captafol
Captan
Carbon Tetrachloride
Chlorobenzilate
Coal Tar and Creosote (non-wood use)
Creosote (wood use)
Cyanazine
DBCP (Dibromochloropropane)
Diallate
Diazinon
Dicofol
Dimethoate
Dinocap
Dinoseb
EBDCs
Endrin

Special Reviews Completed (cont'd)

EPN (Ethyl (p-nitrophenyl)thiobenzene phosphonate)
Ethalfluralin
Ethylene Dibromide (EDB)
Goal (Oxyfluorfen)
Inorganic Arsenicals (wood use)
Lindane
Linuron
PCNB (Pentachloronitrobenzene)
Pentachlorophenol
Pronamide
Sodium Fluoroactetate (Compound 1080)
Strychnine/Strychnine Sulfate
2,4,5-T/Silvex
Thiophanate-Methyl
Toxaphene
2,4,5-Trichlorophenol (TCP)
Trifluralin

Final Determinations on Pre-Special Reviews 1-22 - 1-26

Cacodylic Acid and Salts
Carbaryl
Chlorinated Isocyanurates
Chloroform
Diflubenzuron (Dimilin)
Fluoroacetamide (Compound 1081)
Maleic Hydrazide
Methanearsonates (includes Amine Methanearsonate, Calcium Acid Methanearsonate (CAMA), Monodosodium Methanearsonate (MSMA), Disodium Methanearsonate (DMSA))
Naled
OBPA (10,10'-Oxybisphenoxarsine)
Paraquat Dichloride
Piperonyl Butoxide
Rotenone
Terbutryn
Triallate
S,S,S-Tributyl Phosphorotrithioate
Tributyl Phosphorotrithioite
Trichlorfon

Final Actions - Voluntary Cancellations 1-27 - 1-30

Acrylonitrile
Arsenic Trioxide
Benzene

Final Actions - Voluntary Cancellations (cont'd)

BHC
Captafol
Carbon Tetrachloride
Chloranil
Chlordane
Chlordimeform
Copper Acetoarsenite
Copper Arsenate
Cyhexatin
Endrin
EPN (Ethyl(p-nitrophenyl)thiobenzene phosphonate)
Erbon
Heptachlor
Monocrotophos
Monuron
Nitrofen (TOK)
OMPA (Octamethylpyrophosphoramide)
Perthane
Phenarsazine Chloride
Ronnel
Safrole
Sodium Arsenite
Strobane
2,4,5-Trichlorophenol
Trysben

Cancellations Issued Prior to RPAR/Special Review Process **1-31**

Aldrin
Chlordane/Heptachlor
Chlordecone (Kepone)
DDD (TDE) (Dichlorodiphenyl dichloroethane)
DDT (Dichlorodiphenyl trichloroethane)
Dieldrin
Mirex

Special Review Process

On November 27, 1985, the Agency promulgated a final rule which established new criteria for the initiation of a Special Review (40 CFR Part 154.7). The Special Review process is set in motion when the Agency has reason to believe that the use of a pesticide may result in unreasonable adverse effects. The criteria for initiating a Special Review of a pesticide use are:

1. Acute toxicity to humans or domestic animals.

2. Potential chronic or delayed toxic effects in humans.

3. Potential hazards to non-target organisms.

4. Risk to the continued existence of any threatened or endangered species.

5. Risk of destruction or other adverse modification of a critical habitat of any threatened or endangered species.

6. Any other adverse effect to humans or the environment which may outweigh the benefits that justify initial or continued registration.

Registrants receive private notification that the Agency is considering issuing a Notice of Special Review. This private notification commences the pre-Special Review phase of the process. The registrant has 30 days to dispute the validity of the Agency's concerns.

If, after private notification to the registrants, the Agency tentatively determines that use of the pesticide does not pose a significant risk, a Federal Register (FR) notice is issued which explains the reasons for the Agency's decision. This notice also announces the availability of the public docket, which includes the pre-Special Review notification and all written information received in response to the notification. The FR notice also solicits public comment, after which the Agency makes a final decision on whether to initiate a Special Review.

If the Agency determines that a significant risk may be associated with a pesticide, a Notice of Special Review (Position Document 1) will be published in the FR. This notice describes the Special Review criterion of concern, the assumptions and data used in the analysis and the strength of the conclusions. The notice will announce the availability of the pre-Special Review docket, solicit public comment and request additional information on the pesticide.

After issuance of the Notice of Special Review, the Agency may meet with interested parties to discuss the risk concerns and

available options to reduce the potential risks to health or the environment. Commencement of the Special Review process is accompanied by an Agency conducted, comprehensive risk/benefit analysis of each use of the pesticide subject to Special Review. Potential risks are evaluated by considering factors such as: 1) adverse effects to health or the environment; 2) magnitude of exposure of humans and other non-target organisms; and 3) size of the population at risk. Benefits of use are evaluated by assessing the availability, efficacy and cost of alternative control methods, and impact on users, consumers and other parties (except the registrant) if the pesticide is cancelled.

A Notice of Preliminary Determination (Position Document 2/3) is then published in the FR for public comment. If the registrants voluntarily amend their registrations in a manner which would reduce the risks of the pesticide use to acceptable levels, the notice explains the Agency's previous risk concerns and the voluntary resolutions made by the registrants to alleviate the potential risks. If the registrants do not voluntarily amend the conditions of registrations in order to reduce risks to an acceptable level, the notice would include the regulatory measures the Agency believes are required to reduce risks of the pesticide use(s) to acceptable levels and a proposed notice of intent to cancel, deny or reclassify any registrations which do not comply with these measures.

The Preliminary Determination is then submitted to the Scientific Advisory Panel (SAP) for comment on the Agency's scientific rationale. At the same time, the Agency submits the proposed notice to the United States Department of Agriculture (USDA) for comment, especially on the benefits issues and agricultural impacts.

After evaluating all comments received from the USDA, the SAP, and the public on the proposed action, the Agency will modify the proposal where appropriate prior to issuance as a final action. A Notice of Final Determination (Position Document 4) is published in the FR, along with a Notice of Intent to Cancel, Deny, or Reclassify Registration if required to implement the determination. Any such notice becomes effective by operation of law unless the registrant makes the necessary corrections or a hearing is timely requested by a person adversely affected by the notice.

The five subsequent sections identify in alphabetical order: 1) the chemicals which are currently in Special Review; 2) the chemicals which have Special Review final determinations; 3) the chemicals which were returned to the registration process after a pre-Special Review determination; 4) the chemicals which were voluntarily cancelled as a result of the Special Review process; and 5) the chemicals which were cancelled prior to the RPAR and Special Review processes.

SPECIAL REVIEWS IN PROCESS

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	CURRENT STATUS
ALACHLOR	
o Oncogenicity	o PD 1 published 50 FR 1115 on 1/9/85; comment period closed 4/9/85: NTIS#PB85-175503. Press release published on 1/3/85. o PD 2/3 published 51 FR 36166 on 10/8/86; comment period closed 12/8/86: NTIS# PB87-181319. o PD 4 on dietary and applicator risks published 52 FR 49480 on 12/31/87 required restricted use, label warning, closed systems for large-scale mixer/loaders. NTIS # not available. o PD4 for ground water deferred until 1991.
ALDICARB	
o Acute Toxicity o Ground Water Contamination	o PD 1 published 49 FR 28320 7/11/84; comment period closed 9/11/84. (NTIS # not available). o PD 2/3 published 53 FR 24630 on 6/29/88; comment period closed 9/29/88: NTIS# PB88-236856. o PD 2/3 to be reproposed in FY '90.
AMITROLE	
o Oncogenicity	o PD 1 published 49 FR 20546 on 6/15/84; comment period closed 7/11/84: NTIS# PB87-187175. o A proposed decision scheduled in FY '90.
CARBOFURAN	
o Wildlife Effects	o PD 1 published 50 FR 41938 on 10/16/85; comment period closed 12/2/85: NTIS# PB87-186771. o PD 2/3 published 54 FR 3744 on 1/25/89; comment period closed 3/27/89. o PD 4 to be issued 4/90.

SPECIAL REVIEWS IN PROCESS

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	CURRENT STATUS
2,4-D [also 2,4-DB and 2,4-DP]	
o Carcinogenicity	o Proposed decision not to initiate Special Review published 53 FR 9590 published on 3/23/88. o Final decision to be issued in late FY '90 upon completion and review of two epidemiologic studies.
DAMINOZIDE	
o Oncogenicity	o PD 1 published 49 FR 29136 on 7/18/84; comment period closed 8/31/84. (NTIS # not available). o Draft PD 2/3/4 issued on 9/12/85. o Data call-in issued on 2/10/86. o PD 2/3 preliminary determination to cancel all food uses published 54 FR 22558 on 5/24/89. o On June 2, 1989 the registrant voluntarily halted the sale of daminozide products registered for food uses, and announced an immediate recall of these daminozide stocks. o Proposed tolerance revocations published 54 FR 37277 on 9/7/89. o Final Agency decision to be issued in early 1990.
1,3-DICHLOROPROPENE	
o Oncogenicity	o PD 1 published 51 FR 36161 on 10/8/86; comment period closed 12/8/86. (NTIS # not available). o PD 2/3 to be issued in FY '90.
DICHLORVOS (DDVP)	
o Oncogenicity	o Decision Document published 47 FR 45075 on 10/13/82: NTIS# PB87-181335. The Agency will reassess carcinogenic potential when additional oncogenicity data are received. o PD 1 published 53 FR 5542 on 2/24/88. (NTIS # not available). o PD 2/3 to be issued in FY '90.

SPECIAL REVIEWS IN PROCESS

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	CURRENT STATUS
EBDCs (Ethylenebisdithiocarbamates: Maneb, Mancozeb, Metiram, Nabam, Zineb)	
o Oncogenicity o Teratogenicity	o PD 1 published 52 FR 27172 on Thyroid Effects on 7/17/87; comment period closed 9/30/87: NTIS # PB87-117990. o The sole Nabam registrant requested voluntary cancellation of all food uses in 3/89. o Registrants announced on 9/6/89 that they will drop all but 13 registered food uses. o On 12/4/89, EPA announced PD 2/3, the preliminary determination to cancel all uses of Zineb and 45 food crop uses of Mancozeb, Maneb, and Metiram. 10 crop uses would be retained. PD 2/3 will be published in the Federal Register.
ETHYLENE OXIDE	
o Oncogenicity o Mutagenicity o Testicular Effects	o PD 1 published 43 FR 3801 on 1/27/78; comment period closed 5/15/78: NTIS# PB80-213903. o Petition to revoke Section 409 on spice uses received 12/16/87 (52 FR 47753). Response to petition to be issued in FY 90.
INORGANIC ARSENICALS (non-wood use)	
o Oncogenicity o Mutagenicity o Teratogenicity	o PD 1 published 43 FR 42867 on 10/18/78; comment period closed 2/12/79: NTIS# PB87-181327. o PD 2/3 (which excludes the four uses listed below) published 52 FR 132 on 1/2/87; comment period closed 2/17/87. (NTIS # not available). o PD 2/3 (which will address: turf herbicide use of calcium arsenate; grapefruit growth regulator use of lead arsenate; grape fungicidal use of sodium arsenite; and desiccant use of arsenic acid) to be issued in FY '90.

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	CURRENT STATUS
INORGANIC ARSENICALS (non-wood use) (cont'd)	
	o Registrant of lead arsenate voluntarily cancelled 9/87 with provisions to sell existing stocks. o PD 4 (excluding four uses listed above) published 53 FR 24787 on 6/30/88. (NTIS # not available). Registrants of ant bait formulations filed hearing request on 7/29/88. o Registrant of calcium arsenate voluntarily cancelled 2/14/89. Existing stocks provision to registrant granted until 3/90, all others until 12/31/91. o Use of sodium arsenate as ant bait cancelled on 7/26/89 upon completion of hearing.
PENTACHLOROPHENOL (non-wood use)	
o Oncogenicity o Fetotoxicity o Teratogenicity	o PD 1 published 43 FR 48443 on 10/18/78: NTIS# PB87-109464. o PD 2/3 published 49 FR 48367 on 12/12/84; comment period closed 2/14/86: NTIS# PB87-119095. Special Review on oil well, cooling tower, and pulp and paper uses deferred until exposure data are received. PD 2/3 due in 1990. o PD 4 published 52 FR 2282 on 1/21/87: NTIS# PB87-204707. Non-deferred uses cancelled. o Amendment to PD 4 (clarifying uses) published 53 FR 5524 on 2/24/88.
TPTH (TRIPHENYLTIN HYDROXIDE)	
o Teratogenicity	o PD 1 published 50 FR 1107 on 1/9/85; comment period closed 2/22/85: NTIS# PB85-175487. o Data call-in for additional data issued 5/88. o PD 2/3 to be issued in FY '90.

SPECIAL REVIEWS IN PROCESS

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	CURRENT STATUS
TRIBUTYLTINS (antifoulant use)	
o Acute and Chronic Toxicity to Non-Target Organisms	o PD 1 published 51 FR 778 on 1/8/86; comment period closed 2/24/86: NTIS# PB87-186763. o PD 2/3 published 52 FR 37510 on 10/7/87: NTIS# PB88-161203. o PD 4 published 53 FR 39022 on 10/4/88. (NTIS # not available). Partial conclusion of Special Review; requires compliance with OAPCA release rates and prohibitions, modified labeling, and restricted use classification. Final determination regarding the release of organotin is pending results of major environmental monitoring study.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
AMITRAZ	
o Oncogenicity	o PD 1 published 42 FR 18299 on 4/6/77; comment period closed 7/18/77: NTIS# PB80-212046. o PD 2/3 published 44 FR 2678 on 1/12/79; comment period closed 2/12/79: NTIS# PB80-211436. o PD 4 published 44 FR 32736 on 6/7/79, 44 FR 59938 on 10/7/79 (correction): NTIS# PB80-211428. Conditional registration approved for pears but not for apples. o Tolerance for pears approved 12/6/79.
BENOMYL	
o Reduction in Non-target Organisms o Mutagenicity o Teratogenicity o Reproductive Effects o Hazard to Wildlife	o PD 1 published 42 FR 61788 on 12/6/77; comment period closed 1/23/78: NTIS# PB80-216856. o PD 2/3 published 44 FR 51166 ON 8/30/79; comment period closed 9/28/79: NTIS# PB-87-119087. o PD 4 published 47 FR 46747 on 10/20/82: NTIS# PB83-148189. Requires use of either cloth or commercially available disposable dust masks by mixer/loaders of benomyl intended for aerial application and that registrants of benomyl products conduct field monitoring studies to identify residues that may enter aquatic sites after use on rice. o Registrant completed field monitoring study and submitted to Agency 11/84. Study not accepted. New study required by Registration Standard issued 6/87.
CADMIUM	
o Oncogenicity o Mutagenicity o Teratogenicity o Fetotoxicity	o PD 1 published 42 FR 56574 on 10/26/77; comment period closed 2/10/78: NTIS# PB87-181376. o PD 2/3 published 51 FR 36524 on 10/10/86; comment period closed 11/24/86: NTIS# PB87-175782.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
CADMIUM (cont'd)	
	o PD 4 published 52 FR 31076 on 8/19/87: NTIS# PB87-228490. Golf course fairway and home lawn uses cancelled. Golf course green and tee area uses modified.
CAPTAFOL	
o Oncogenicity o Acute and Chronic o Wildlife Effects	o PD 1 published 50 FR 1103 on 12/9/84; comment period closed 1/31/85: NTIS# PB85-175495. Press release published on 1/3/85. o All registrations voluntarily cancelled as of 5/15/87. o Proposed decision to terminate Special Review published 52 FR 27576 on 7/22/87. o Final decision published 53 FR 33535 on 8/31/88.
CAPTAN	
o Oncogenicity	o PD 1 published 45 FR 54938 on 8/18/80; comment period closed 12/1/80: NTIS# PB81-109449. o PD 2/3 published 50 FR 25885 on 6/21/85; comment period closed 8/5/85: NTIS# PB87-118011. o PD 4 published 54 FR 8116 on 2/24/89. (NTIS # not available). Certain food use registrations cancelled.
CARBON TETRACHLORIDE	
o Oncogenicity o Toxic Effect on Liver and Kidneys	o PD 1 published 45 FR 68534 on 10/15/80; comment period closed 11/24/80: NTIS# PB81-121782. o Voluntary cancellation of many products published 50 FR 42997 on 10/23/85. o Cancellation of remaining products published 54 FR 41004 on 11/12/86. o Proposed exemption revocation published 52 FR 38200 on 10/14/87. o Expiration date of 7/31/90 for the tolerance exemption on grains published 54 FR 6126 on 2/8/89.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
CHLOROBENZILATE	
o Oncogenicity o Testicular Effects	o PD 1 published 41 FR 21517 on 5/26/76; comment period closed 7/28/76. (NTIS # not available). o PD 2/3 published 43 FR 29824 on 7/11/78; comment period closed 8/10/78: NTIS# PB80-213887. o PD 4 published 44 FR 9547 on 2/13/79: NTIS# PB80-213929. All uses except citrus cancelled.
COAL TAR AND CREOSOTE (non-wood use)	
o Oncogenicity o Mutagenicity	o PD 1 published 43 FR 48154 on 10/18/78; comment period closed 12/4/78: NTIS# PB80-213879. o PD 2/3 published 49 FR 33328 on 8/22/84; comment period closed 10/20/84: NTIS# PB87-178851. o PD 4 published 50 FR 41943 on 10/16/85: NTIS# PB87-180485. Cancellation of all uses except gypsy moth egg masses; deferral on coal tar neutral oil (CTNO) use pending receipt of additional data. o Cancellation of all remaining uses published 5/15/86.
CREOSOTE (wood use)	
o Oncogenicity o Mutagenicity	o PD 1 published 43 FR 48154 on 10/18/78; comment period closed 2/12/79: NTIS# PB80-213879. o PD 2/3 published 46 FR 13020 on 2/19/81; comment period closed 5/20/81: NTIS# PB82-229956. o At 4/14/83 public meeting, proposed conclu-sion presented; comment period closed 5/13/83. o PD 4 published 49 FR 28666 on 7/13/84: NTIS# PB84-241538. Requires label changes including a restricted use classification. o Subsequently, two FR notices published: 49 FR 43772 on 10/31/84, and 50 FR 4269 on 1/30/85.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
CYANAZINE	
o Teratogenicity	o PD 1 published 50 FR 6560 on 4/10/85; comment period closed 5/27/85: NTIS# PB87-117982. o PD 2/3 published 52 FR 589 on 1/17/87; comment period closed 3/9/87: NTIS# PB87-181400. o PD 4 published 53 FR 795 on 1/13/88. Requires label warning and protective clothing. (NTIS # not available). o Hearing requested 2/88. Settlement reached 5/88 revising hazard warning statement and extending existing stocks provision.
DBCP (DIBROMOCHLOROPROPANE)	
o Oncogenicity o Reproductive Effects o Mutagenicity o Ground Water Contamination	o PD 1 published 42 FR 48026 on 9/22/77; comment period closed 11/7/77: NTIS # PB87-181368. o Suspension order and notice of intent to cancel all food uses published 42 FR 57543 on 11/3/77. o Amended notice of intent to cancel and PD 2/3/4 published 43 FR 40911 on 9/13/78: NTIS# PB80-213853. o Notice of intent to suspend all products published 44 FR 43335 on 7/24/79. o Suspension order for all uses except pineapples published 44 FR 65161 on 10/29/79. o Notice of intent to cancel all uses published 44 FR 65170 on 11/9/79. o Withdrawal of the notice of intent to cancel use on pineapples published 46 FR 19592 on 3/31/82. o Proposed intent to cancel use on pineapples published 49 FR 1556 on 1/12/84; comment period closed 3/12/84. o Press release published on 1/3/85. o Final PD 4 published 50 FR 1122 on 1/9/85. Cancellation of remaining registrations. (NTIS # not available).

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
DIALLATE	
o Oncogenicity o Mutagenicity	o PD 1 published 42 FR 27669 on 5/31/77; comment period closed 9/9/77: NTIS# PB80-212863. o PD 2/3 published 45 FR 38437 on 6/9/80; comment period closed 7/9/80: NTIS# PB80-216849. o PD 4 published 47 FR 27109 on 6/23/82: NTIS# PB87-118006. Restricted use to certified applicators wearing protective clothing.
DIAZINON	
o Avian Hazard	o PD 1/2/3 published 51 FR 1842 on 1/15/86; comment period closed 3/3/86; extended to 3/28/86 (51 FR 8813): NTIS# PB87-101853. o PD 4 published 51 FR 35034 on 10/1/86. (NTIS # not available). Cancellation of golf course and sod farm uses. o Amendment to PD 4 published 52 FR 5656 on 2/25/87. o Registrant-requested hearing confirmed PD 4 decision in 4/88. o Registrants appealed; PD 4 remanded pending decision by Administrator.
DICOFOL	
o Ecological Effects	o PD 1 published 49 FR 10569 on 3/21/84; comment period closed 5/5/84: NTIS# PB84-160084. o PD 2/3 published 49 FR 39820 on 10/10/84; comment period closed 11/26/84: NTIS# PB85-134153. o Amendment to PD 2/3 published 50 FR 33008 on 8/15/85. o PD 4 published 51 FR 19508 on 5/29/86. (NTIS # not available). Requires a reduction in the level of DDTr contamination, and modified labeling.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
DIMETHOATE	
o Oncogenicity o Mutagenicity o Fetotoxicity o Reproductive Effects	o PD 1 published 42 FR 45806 on 9/12/77; comment period closed 1/6/78: NTIS# PB87-181343. o PD 2/3 published 44 FR 66558 on 11/19/79; comment period closed 12/19/79: NTIS# PB80-213846. o PD 4 published 46 FR 5364 on 1/19/81: NTIS# PB81-172413. Denies applications for dust formulations, and requires modified labeling.
DINOCAP	
o Teratogenicity	o PD 1 published 50 FR 1119 on 1/9/85; comment period closed 2/22/85. (NTIS # not available). o PD 2/3 published 51 FR 39577 on 10/29/86; comment period closed 12/29/86: NTIS# PB87-178844. o PD 4 published 54 FR 5908 on 2/6/89. Requires health hazard label statement and additional protective clothing.
DINOSEB	
o Teratogenicity o Reproductive Effects o Acute Effects	o Emergency Suspension Order/Notice of Intent to Cancel published 51 FR 36634 on 10/14/86: NTIS# PB87-225041. o As a result of a Subpart D hearing, the Agency modified the 10/7/86 Suspension Order to permit use of dinoseb on dry peas, lentils, and chick peas in Idaho and Washington during the 1987 growing season. A District Court order in Oregon permitted use on green peas and snap beans in 1987 and 1988. Under a settlement agreement reached between EPA and the registrant in 5/88, use was allowed on cranberries in 1989.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
EBDCs (Ethylene bisdithiocarbamates: Maneb, Mancozeb, Metiram, Nabam, Zineb, Amobam)	
o Oncogenicity	o PD 1 published 42 FR 40618 on 8/10/77; comment period closed 12/23/77: (NTIS # not available). o Decision Document and Final Determination published 47 FR 47669 on 10/27/82: NTIS# PB87-181350. Requires modified labeling and additional toxicological data.
ENDRIN	
o Oncogenicity o Teratogenicity o Reduction in Endangered and Non-Target Species	o PD 1 published 41 FR 31316 on 7/27/76; comment period closed 11/4/76: NTIS# PB81-112690. o PD 2/3 published 43 FR 51132 on 11/2/78; comment period closed 12/4/78: NTIS#PB 119921. o PD 4 published (including cancellations) 44 FR 43631 on 7/25/79: NTIS# PB81-109480. o PD 4 follow-up notice sent 8/28/80. o Cancellations by Velsicol of one technical and 2 end-use products effective 11/23/84. o Velsicol's last end-use product was voluntarily cancelled as of 8/1/85. o All but one remaining uses were voluntarily cancelled effective 9/12/85.
EPN (Ethyl (p-nitrophenyl)thiobenzene phosphonate)	
o Neurotoxicity o Hazard to Aquatic Organisms	o PD 1 published 44 FR 54384 on 9/19/79; comment period closed 12/29/79: NTIS#PB80-216815. o Determination to conclude RPAR published in 48 FR 39494 on 8/31/83. Mosquito larvicide use cancelled. New label requirements imposed for all other uses to reduce exposure to applicators and non-target organisms, and reassess tolerances, chronic toxicity and reentry. o Proposed Decision Not To Initiate Special Review published 52 FR 27453 on 7/21/87. o Final Decision Not to Initiate Special Review published 53 FR 48574 on 12/23/87. o All registrations voluntarily cancelled as of 7/24/87.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
ETHALFLURALIN	
o Oncogenicity	o PDs 1, 2/3, and 4 published 49 FR 511 on 1/4/84; comment period closed 12/1/85. (NTIS # not available). Benefits of conditional registration exceeded risks. Submission of additional data required by 12/1/85.
ETHYLENE DIBROMIDE (EDB)	
o Oncogenicity o Mutagenicity o Reproductive Effects	o PD 1 published 42 FR 63134 on 12/14/77; comment period closed 4/3/78: NTIS# PB80-109456. o PD 2/3 published 45 FR 81586 on 12/10/81; comment period closed 3/9/82: NTIS# PB81-157851. o PD 4 published 48 FR 45956 on 10/7/83: NTIS# PB85-238004. o Emergency Suspension published 49 FR 4452 on 2/6/84: NTIS# PB85-235919. Uses to fumigate grain and grain milling equipment were suspended. o Proposed tolerances for EDB in grains published 49 FR 6697 on 2/22/84. o Proposed tolerances for EDB in citrus and papayas published 49 FR 8407 on 3/6/84. o Amendment to Notice of Intent to Cancel registrations of pesticide products containing EDB published 49 FR 14182 on 4/10/84. o Final tolerances for EDB in grains published 49 FR 17144 on 4/23/84. o Final revocation of tolerances and establishment of interim tolerances for EDB in citrus and papaya published 49 FR 22082 on 5/25/84. o Proposed revocation of tolerances for miscellaneous commodities published 49 FR 32085 on 8/10/84. o Interim tolerance for EDB in mangoes was published 9/29/86. Tolerance expired 9/30/87. o Papaya registration voluntarily cancelled as of 3/87.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
EDB (cont'd)	
	o only remaining uses are citrus for export (use terminated at end of 1988/1989 harvest season), vault fumigation, and quarantine fumigation of nursery stock.
GOAL (OXYFLUORFEN)	
o Oncogenicity	o PD 1/2/3 published 46 FR 23490 on 4/27/81; comment period closed 5/11/81: NTIS# PB82-185133. o PD 4 published 47 FR 27118 on 6/23/82: NTIS# PB82-172289. o Decision made to continue use of the herbicide subject to certain restrictions (on PCE) pertaining to formulation of product.
INORGANIC ARSENICALS (wood use)	
o Oncogenicity o Mutagenicity o Teratogenicity	o PD 1 published 43 FR 48267 on 10/18/78; comment period closed 2/12/79. (NTIS # not available). o PD 2/3 published 46 FR 13020 on 2/19/81; comment period closed 5/20/81: NTIS# PB82-229956. o At 4/14/83 public meeting proposed conclusion presented; comment period closed 5/15/83. o PD 4 published 49 FR 28666 on 7/13/84: NTIS# PB84-241538. Requires label changes including a restricted use classification. o Subsequently, two FR notices were published: 49 FR 43772 on 10/31/84, and 50 FR 4269 on 1/30/85.
LINDANE	
o Oncogenicity o Teratogenicity o Reproductive Effects o Other Chronic Effects o Acute Toxicity	o PD 1 published 42 FR 9816 on 2/18/77; comment period closed on 6/20/77: NTIS#PB80-213861. o PD 2/3 published 45 FR 45362 on 7/3/80; comment period closed 9/15/80: NTIS # PB87-165080.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
LINDANE (cont'd)	o PD 4 published 48 FR 48512 on 10/19/83: NTIS# PB87-165098. The decision cancelled the indoor use of smoke fumigation devices and the use of dog dips to treat pests other than mites. All other uses will continue with use restrictions and label modifications. o Negotiated settlement on dog dips published 49 FR 26282 on 6/27/84. A settlement on smoke bombs published 50 FR 5425 on 2/8/85 to end sale of product by 5/31/86 for registrant and by 11/30/86 for retailer.
LINURON	
o Oncogenicity (rebutted)	o PD 1 published 49 FR 37843 on 9/26/84; comment period closed 11/10/84: NTIS# PB85-174654. o Preliminary Decision to Conclude Special Review published 53 FR 31262 on 8/17/88. o Final Determination to Conclude published 54 FR 4072 on 1/27/89. No regulatory action warranted.
PCNB (PENTACHLORONITROBENZENE)	
o Oncogenicity	o PD 1 published 42 FR 61894 on 10/13/77; comment period closed 2/6/78: NTIS# PB80-216799. o Special Review was terminated through negotiated agreement with registrants to reduce levels of the HCB contaminant and to make label changes to reduce exposure. Published 47 FR 18177 on 4/19/82.
PENTACHLOROPHENOL	
o Oncogenicity o Fetotoxicity o Teratogenicity	o PD 1 published 43 FR 48443 on 10/18/78; comment period closed 2/12/79: NTIS# PB81-109464. o PD 2/3 published 46 FR 13020 on 2/19/81; comment period closed 5/20/81: NTIS# PB82-229956. o At 4/14/83 public meeting proposed conclusion presented; comment period closed 5/13/83.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
PENTACHLOROPHENOL (cont'd)	
	o PD 4 published 49 FR 28666 on 7/13/84: NTIS# PB84-241538. Requires label changes including a restricted use classification. o Subsequently, two FR notices were published: 49 FR 43772 on 10/31/84 and 50 FR 4269 on 1/30/85. o Amendment to PD 4 published 51 FR1334 on 1/10/86. o Amendment to amended PD 4 published 52 FR 140 on 1/2/87. o Comprehensive DCI issued 8/4/89.
PRONAMIDE	
o Oncogenicity	o PD 1 published 42 FR 32302 on 5/20/77; comment period closed 8/29/77: NTIS# PB81-109472. o PD 2/3 published 44 FR 3083 on 1/15/79; comment period closed 2/14/79: NTIS# PB80-213911. o PD 4 published 44 FR 61640 on 10/26/79: NTIS# PB81-112716. The following actions were taken: Cancellation of registration of products allowing hand spray applications, except for use on ornamentals and nursery stock; cancellation of registrations of products unless the registrant modifies the terms and conditions to allow certain uses of wettable powder products only by or under direct supervision of certified applicators; modification of labeling of wettable powder products to include specific general precautions, directions as to protective clothing to be worn, dilution instructions for wettable powder products, and watering instructions for granular products used on turf; and Agency revision of the lettuce tolerance from 2 ppm to 1 ppm from required residue data that was submitted.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
SODIUM FLUOROACETATE (1080)	
o Reduction in Non-Target and Endangered Species	o PD 1 published 41 FR 52792 on 12/1/76; comment period closed o No Antidote3/15/77: NTIS# PB80-216823. o PD 2/3 signed on 11/11/82; re-signed on 6/29/83; published 48 FR 50935 on 11/4/83: NTIS# PB87-182226. Issuance of PD delayed to coincide with document addressing predator issues. o SAP reviewed PD 2/3 and issued a final report on 7/3/84, following 6/12/84 SAP meeting. o PD 4 published 50 FR 31012 on 7/31/85: NTIS# PB87-116471. Modified labeling and certain bait concentration reductions required.
STRYCHNINE/STRYCHNINE SULFATE	
o Reduction in Non-target and Endangered Species	o PD 1 published 42 FR 2713 on 1/13/77; comment period closed 3/15/77: NTIS# PB80-216807. o PD 2/3 published 45 FR 73602 on 11/5/80; comment period closed 9/30/81: NTIS# PB81-123960. o PD 4 published 48 FR 48522 on 10/19/83: NTIS# PB87-182234. Decision cancelled use of strychnine for control of prairie dogs and several other rodents and small mammals. All other uses will require label modifications. o Notice published 53 FR 6762 on 3/4/87 withdrawing partial cancellation of strychnine active ingredient pesticides for prairie dog, ground squirrel, and meadow mouse control if certain modifications of terms and conditions of registration are made. Terms and conditions include: establishment of a State program for exclusive distribution and moni- toring of strychnine for use on prairie dogs; compliance with Black-Footed Ferret Survey Guidelines; and use of certain label statements.

SPECIAL REVIEWS COMPLETED

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
2,4,5-T/SILVEX	
o Oncogenicity o Teratogenicity o Fetotoxicity	o 2,4,5-T PD 1 published 43 FR 17116 on 4/21/78; comment period closed 6/5/78: NTIS# PB80-212665. o 2,4,5-T: PD 2/3 published 44 FR 41536 on 7/17/79; comment period closed 8/16/79: NTIS# PB87-117685. o Silvex: PD 1/2/3 published 44 FR 41536 on 7/17/79; comment period closed 8/16/79: NTIS# PB80-213895. o Emergency Suspension Order and Notice of Intent to Cancel published 44 FR 15874 on 3/15/79. 2,4,5-T: NTIS# PB80-225923; Silvex: PB80-226376. o 2,4,5-T/Silvex--PD 4 published 44 FR 72316 on 12/13/79: NTIS# PB87-181384. o Cancellation hearings began 3/14/80. o On 10/11/84, the Administrative Law Judge gave Union Carbide 30 days to determine if they wanted to defend 2,4,5-T/Silvex uses. Union Carbide and remaining companies withdrew from the hearing and all registrations were cancelled on 1/2/85.
THIOPHANATE-METHYL	
o Mutagenicity o Oncogenicity o Reduction in Non-target Species (Rebutted)	o PD 1 published 42 FR 61970 on 12/7/77; comment period closed 3/27/78: NTIS# PB80-216856. o PD 2/3 published 44 FR 58798 on 10/11/79; comment period closed 11/12/79: NTIS# PB87-119087. o PD 4 published 47 FR 46747 on 10/20/82: NTIS# PB83-148189. No regulatory action warranted.
TOXAPHENE	
o Oncogenicity o Population Reduction in Non-Target Animal Species o Acute Toxicity to Aquatic Organisms o Chronic Effects to Wildlife	o PD 1 published 42 FR 26860 on 5/27/77; comment period closed 6/13/77: 5/27/77; comment period closed NTIS# PB80-216732. o PD 2/3/4 published 47 FR 53784 on 11/29/82: NTIS# PB83-144204. Cancellation of registrations for most uses and continued registration of certain uses under specific terms and

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	FINAL DETERMINATION
TOXAPHENE (cont'd)	conditions. The continued uses are: corn, cotton, and small grain for specific insect infestation (emergency use only); pineapples and bananas for specific insects in Puerto Rico and the Virgin Islands only; and scabies treatments of cattle and sheep.
2,4,5-TRICHLOROPHENOL (TCP)	
o Oncogenicity o Fetotoxicity	o PD 1 published 43 FR 34026 on 8/2/78; comment period closed 11/17/78: NTIS# PB81-103111. o Action temporarily deferred pending 2,3,5-T/Silvex proceedings. o 3(c)(2)(B) letter issued on May 7, 1985 requesting updated Confidential Statement of Formula, analysis for dioxin contamination, and teratology data. Most products were voluntarily cancelled in response. o PD 2/3/4 published 52 FR 15549 on 4/29/87: NTIS# PB87-203113. Cancellation of all uses.
TRIFLURALIN	
o Oncogenicity o Mutagenicity	o PD 1/2/3 published 44 FR 50911 on 8/30/79; comment period closed 11/13/79: NTIS# PB80-213937. o PD 4 published 47 FR 33777 on 8/4/82: NTIS# PB82-263252. Registration allowed to continue if total N-nitrosamine contamination is kept below 0.5 ppm for technical products, and below a figure based on trifluralin content for formulated products.

FINAL DETERMINATION ON PRE-SPECIAL REVIEWS
(Returned to the Registration Process)

40 CFR 154.7 CRITERIA OF CONCERN	DATE OF FR NOTICE AND NTIS PUBLICATION NUMBER
CACODYLIC ACID AND SALTS	
o Oncogenicity o Mutagenicity o Teratogenicity	o Insufficient evidence to issue a Special Review. o Decision Document published 47 FR 20376 on 5/12/82. (NTIS # not available). Returned to the registration process in 12/81 with the stipulation that pursuant to section 3(c)(2)(B), data on the rate of dermal absorption be submitted, knapsack/hand sprayer applicators treating ditch banks and rights-of-way will wear respirators or masks, and labels recommend masks for home users employing knapsacks or hand sprayers. The data has been submitted and the Agency has not imposed labeling changes.
CARBARYL	
o Oncogenicity o Mutagenicity o Teratogenicity	o Decision Document published 45 FR 81869 on 12/12/80: NTIS# PB87-181301. The Agency has returned this compound to the registration process with the stipulation that the following measures be considered: (1) a section 3(c)(2)(B) action that registrants remedy data gaps identified in pre-special review and (2) appropriate label changes be made to minimize exposure to carbaryl. Both measures were considered in the reregistration review of this chemical.
CHLORINATED ISOCYANURATES	
o Kidney Effects	o The Agency concluded in the Registration Standard that chlorinated isocyanurates do not exceed the risk criteria for adverse effects in 40 CFR 154.7.

FINAL DETERMINATION ON PRE-SPECIAL REVIEWS
(Returned to the Registration Process)

40 CFR 154.7 CRITERIA OF CONCERN	DATE OF FR NOTICE AND NTIS PUBLICATION NUMBER
CHLOROFORM	
o Oncogenicity	o PD 1 published 41 FR 14588 on 4/6/76; comment period closed 7/23/76. (NTIS # not available). o The Agency determined that applicator exposure had been reduced to a minimum as a result of label amendments. Also, registrants were required to submit data to establish tolerances of permissible residues on raw agricultural commodities.
DIFLUBENZURON (DIMILIN)	
o Hazard to Wildlife	o RPAR action completed and Decision Document issued on 3/26/79: NTIS# PB87-187191. Registrant consented to restricted use. o Agency concluded that existing evidence does not support issuance of a Special Review.
FLUOROACETAMIDE (COMPOUND 1081)	
o Acute Toxicity to Mammalian and Avian Species o Reduction in Endangered Species and Non-Target o Acute Toxicity without Antidote	o PD 1 published 41 FR 52792 on 12/1/76: NTIS# PB80-216823. o PD 2 published 45 FR 13189 on 2/28/80: NTIS# PB80-216831. o Chemical returned to registration process with the restriction that it be used only in sewers.
MALEIC HYDRAZIDE	
o Oncogenicity o Mutagenicity o Reproductive Effects	o PD 1 published 42 FR 56920 on 10/28/77; comment period closed 12/14/77: NTIS# PB80-216740. o Decision Document published 48 FR 498 on 1/5/82: NTIS# PB82-240300. This action returned maleic hydrazide and salts (K-MH, DEA-MH) to the registration process.

FINAL DETERMINATION ON PRE-SPECIAL REVIEWS
(Returned to the Registration Process)

40 CFR 154.7 CRITERIA OF CONCERN	DATE OF FR NOTICE AND NTIS PUBLICATION NUMBER
MALEIC HYDRAZINE (cont'd)	
	o All required data have been submitted to the Agency. o Registrants decided not to perform similar tests on DEA-MH. Thus, DEA-MH was suspended 11/81.
METHANEARSONATES (includes Amine Methanearsonate, Calcium Acid Methanearsonate (CAMA), Monodosodium Methanearsonate (MSMA), Disodium Methanearsonate (DMSA))	
o Oncogenicity o Mutagenicity	o On 6/28/83 the pre-Special Review for methanearsonate chemicals was completed and a decision memorandum approved returning these chemicals to the registration process. The existing evidence was inadequate to initiate a Special Review. o 3(c)(2)(B) letter sent 9/26/83 requiring a chronic feeding, oncogenicity, teratology, and applicator exposure studies in order to determine if there are any risk concerns.
NALED	
o Mutagenicity o Fetotoxicity o Reproductive Effects	o Chemical returned to the registration process on 6/30/83. Based on a review of all available data, no valid tests or definitive evidence exist which meet or exceed the Special Review risk criteria.
OBPA (10,10'-Oxybisphenoxarsine)	
o Oncogenicity o Mutagenicity o Teratogenicity	o Decision Document issued 4/9/79. (NTIS # not available). Returned to the registration process due to lack of evidence of oncogenicity in the suspected arsenical compound.

FINAL DETERMINATION ON PRE-SPECIAL REVIEWS
(Returned to the Registration Process)

40 CFR 154.7 CRITERIA OF CONCERN	DATE OF FR NOTICE AND NTIS PUBLICATION NUMBER
PARAQUAT DICHLORIDE	
o Emergency Treatment o Chronic Effects	o Decision Document published 47 FR 45075 on 10/23/82: NTIS# PB87-181392. Outlined data gaps and voluntary cancellation of certain non-crop use sites.
PIPERONYL BUTOXIDE	
o Oncogenicity	o Decision Document published 47 FR 20376 on 5/12/82: NTIS# PB83-137901. Chemical returned to the registration process and a section 3(c)(2)(B) notice requesting additional data issued on 9/30/82. o Studies received 8/87 and reviewed 4/8/88 by Toxicology Branch.
ROTENONE	
o Oncogenicity o Mutagenicity o Teratogenicity o Reproductive Effects o Chronic Effects o Significant Wildlife Population Reductions o Acute Toxicity to Aquatic Wildlife	o Decision Document published 46 FR 36745 on 7/15/81 (NTIS # not available). Chemical returned to the registration process based on a finding of no unreasonable adverse effects. able adverse effects.
TERBUTRYN	
o Oncogenicity o Mutagenicity o Reproduction	o Decision Document published 47 FR 20376 on 5/12/82. (NTIS # not available). o Chemical returned to the registration process. Registrants agreed to change label to reduce applicator risk to acceptable levels.

FINAL DETERMINATION ON PRE-SPECIAL REVIEWS
(Returned to the Registration Process)

40 CFR 154.7 CRITERIA OF CONCERN	DATE OF FR NOTICE AND NTIS PUBLICATION NUMBER
TRIALLATE	
o Oncogenicity o Mutagenicity	o Decision Document published 45 FR 92349 on 12/15/80 (NTIS # not available). The Agency determined that, in light of the low level of exposure, the chemical should be returned to the registration process stipulating that a section 3(c)(2)(B) action be initiated to obtain necessary toxicity data to evaluate its hazards. o 3(c)(2)(B) was issued on 6/15/84 to include the data needs.
S,S,S-TRIBUTYL PHOSPHOROTRITHIOATE	
o Neurotoxicity	o Decision Document published 47 FR 20376 on 5/12/82: NTIS# PB87-186789. o Returned to the registration process based on a finding of no unreasonable adverse effects. Registrants agreed to protective clothing requirement.
TRIBUTYL PHOSPHOROTRITHIOITE	
o Neurotoxicity	o Decision Document published 47 FR 20376 on 5/12/82: NTIS# PB87-186797. o Returned to the registration process based on a finding of no unreasonable adverse effects. Registrants agreed to protective clothing requirement.
TRICHLORFON	
o Oncogenicity o Mutagenicity o Teratogenicity o Reproductive Effects	o Removed from Pre-Special Review as it chemically relates to dichlorvos. (See Dichlorvos.) o FetotoxicityoExisting evidence does not support issuance of a Special Review for this chemical.

FINAL ACTION
VOLUNTARY CANCELLATIONS

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	DATE OF FR NOTICE AND NTIS PUBLICATION NUMBER
ACRYLONITRILE	
o Oncogenicity o Teratogenicity o Neurotoxicity	o 43 FR 26310 (6/19/78). Three products only.
ARSENIC TRIOXIDE	
o Oncogenicity o Mutagenicity o Teratogenicity	o 42 FR 45944 (9/13/77). Some uses were cancelled.
BENZENE	
o Oncogenicity o Mutagenicity o Blood Disorders	o All products voluntarily cancelled on 7/31/85.
BHC	
o Oncogenicity	o 43 FR 31432 (7/21/78). NTIS# PB80-216781.
CAPTAFOL	
o Oncogenicity	o All products voluntarily cancelled 5/15/87.
CARBON TETRACHLORIDE	
o Oncogenicity o Toxic Effects on Liver and Kidneys	o 50 FR 42997 (10/23/85). Many products cancelled.
CHLORANIL	
o Oncogenicity	o 42 FR 3702 (1/19/77).
CHLORDANE	
o Oncogenicity	o Major registrant Velsicol agreed on 8/11/87 to cancel some termiticide products and withdraw all others unless indoor air moni-toring studies showed no detectable levels. o 53 FR 11798 (4/8/88) announced cancellation of many termiticide products

FINAL ACTION
VOLUNTARY CANCELLATIONS

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	DATE OF FR NOTICE AND NTIS PUBLICATION NUMBER
CHLORDANE (cont'd)	and termination of sale, distribution, and use (except by homeowners) as of 4/15/88. All remaining products are withdrawn or suspended under section 3(c)(2)(B).
CHLORDIMEFORM	
o Oncogenicity	o Proposed decision not to initiate Special Review due to voluntary cancellation of all products published 53 FR 36422 on 9/19/88. o Final decision published 54 FR 6242 on 2/8/89 allowed use of existing stocks by end users until 10/1/89.
COPPER ACETOARSENITE	
o Oncogenicity o Mutagenicity o Teratogenicity	o 42 FR 18422 (4/7/77).
COPPER ARSENATE	
o Oncogenicity (Basic)	o 42 FR 18422 (4/7/77).
CYHEXATIN	
o Teratogenicity	o All products voluntarily cancelled 9/25/87.
ENDRIN	
o Reduction in Endangered Species and Non-Target Species	o Cancellation of all uses except one effective 9/12/85.
EPN (Ethyl(p-nitrophenyl)thiobenzene phosphonate)	
o Neurotoxicity o Hazard to Aquatic Organisms	o All products voluntarily cancelled on 7/24/87.

FINAL ACTION
VOLUNTARY CANCELLATIONS

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	DATE OF FR NOTICE AND NTIS PUBLICATION NUMBER
ERBON	
o Oncogenicity o Teratogenicity o Fetotoxicity	o 45 FR 58770 (10/4/80).
HEPTACHLOR	
o Oncogenicity	o Major registrant Velsicol agreed on 8/11/87 to cancel some termiticide products and withdraw all others unless indoor air monitoring studies showed no detectable levels. o 53 FR 11798 (4/8/88) announced cancellation of many termiticide products and termination of sale, distribution, and use (except homeowner products) as of 4/15/88. All remaining products are withdrawn or suspended under section 3(c)(2)(B).
MONOCROTOPHOS	
o Avian Effects	o All products voluntarily cancelled on 7/15/88.
MONURON	
o Oncogenicity	o 42 FR 41320 (8/16/77). Some products cancelled.
NITROFEN (TOK)	
o Teratogenicity o Mutagenicity o Oncogenicity	o All products voluntarily cancelled on 9/15/83.
OMPA (Octamethylpyrophosphoramide)	
o Oncogenicity	o 41 FR 21859 (5/28/76).
PERTHANE	
o Oncogenicity	o 45 FR 41694 (6/20/80). Many products cancelled.

FINAL ACTION
VOLUNTARY CANCELLATIONS

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	DATE OF FR NOTICE AND NTIS PUBLICATION NUMBER
PHENARSAZINE CHLORIDE	
o None	o 42 FR 59776 (11/21/77).
RONNEL	
o Oncogenicity	o 51 FR 2953 (1/22/86). Many products cancelled.
SAFROLE	
o Oncogenicity o Mutagenicity	o 42 FR 11039 (2/25/77). o 42 FR 16844 (3/30/77). o 42 FR 29957 (6/10/77).
SODIUM ARSENITE	
o Oncogenicity o Mutagenicity o Teratogenicity	o 43 FR 48267 (10/18/78). Two products cancelled.
STROBANE	
o Oncogenicity	o 41 FR 26607 (6/28/76).
2,4,5-TRICHLOROPHENOL	
o Oncogenicity o Fetotoxicity	o Most product cancelled in response to May 7, 1985 data call-in notice
TRYSBEN	
o Oncogenicity	o 43 FR 5782 (2/9/78).

CANCELLATIONS ISSUED PRIOR TO RPAR/SPECIAL REVIEW PROCESS

40 CFR 154.7 CRITERIA POSSIBLY MET OR EXCEEDED	DATE OF FR NOTICE AND NTIS PUBLICATION NUMBER
ALDRIN	
o Carcinogenicity o Bio-accumulation o Hazard to Wildlife o Other Chronic Effects	o 39 FR 37246 (10/18/74). Cancellation of all but termiticide and use.
CHLORDANE/HEPTACHLOR	
o Carcinogenicity o Reductions in Non-target and Endangered Species	o 43 FR 12372 (3/24/78). Cancellation of all but termiticide use.
CHLORDECONE (KEPONE)	
o Oncogenicity	o 42 FR 18885 (4/11/77) and 42 FR 38205 (7/27/77). NTIS# PB80-216773.
DDD (TDE) (Dichlorodiphenyl dichloroethane)	
o Carcinogenicity o Bio-accumulation o Hazard to Wildlife and Other Chronic Effects	o 36 FR 5254 (3/18/71).
DDT (Dichlorodiphenyl trichloroethane)	
o Carcinogenicity o Bio-accumulation o Hazard to Wildlife and Other Chronic Effects	o 37 FR 13369 (7/7/72). Cancellation of most uses.
DIELDRIN	
o Carcinogenicity o Bio-accumulation o Hazard to Wildlife o Other Chronic Effects	o 39 FR 37246 (10/18/74). Cancellation of all but termiticide and use.
MIREX	
o Carcinogenicity o Bio-accumulation o Hazard to Wildlife and Other Chronic Effects	o 41 FR 56703 (12/29/76).

Status
of
Registration Standards in the Reregistration Program

December 1989

Office of Pesticide Programs
U.S. Environmental Protection Agency
Washington, D.C. 20460

Reregistration Process

In response to the mandate by Congress to reregister all previously registered pesticide products [FIFRA section 3(g)], EPA established the Registration Standards process in 1980. A Registration Standard states EPA's evaluation of existing data and identifies incomplete or additional data requirements that registrants must fulfill in order to reregister a pesticide product. The aim of this process is to reevaluate the active ingredients in pesticide products in accordance with new standards for registration.

A review of current scientific data and increased awareness of potential hazards associated with pesticide use resulted in the expanded data and labeling requirements promulgated in 1984 (40 CFR Part 158). Data requirements for registration provide data and information necessary to assess the identity, composition, potential adverse effects, and environmental fate of each pesticide. Data may be required from any or all of the following categories: 1) Product and Residue Chemistry; 2) Environmental Fate; 3) Toxicology; 4) Reentry Protection; 5) Spray Drift; 6) Wildlife and Aquatic Organisms; 7) Plant Protection; 8) Non-Target Organisms; and 9) Product Performance.

After all additional data have been received and reviewed by the Agency, the Registration Standard outlining EPA's regulatory position on the active ingredient under review is determined. If the data analysis indicates that a Special Review criterion has been met (40 CFR Part 154.7), the Registration Standard announces the Agency's decision regarding issuance or consideration of a Special Review for some or all uses of the chemical.

The FIFRA Amendments of 1988 mandate a comprehensive data call-in and accelerated reregistration process, to be implemented in five phases over a nine-year period. The amendments serve to expedite the reregistration process and development of Registration Standards. The phased approach delineates a time frame for completion of the data base for each pesticide product, evaluation of all data by the Agency and reregistration of products. The responsibility for making data available lies with pesticide registrants.

The five phases of the reregistration process are: 1) Identification and categorization of active ingredients requiring reregistration. Only pesticides registered between November 1, 1984 and December 24, 1988 for which there are no outstanding requirements are exempt from the accelerated reregistration process. The Agency will publish four lists (A, B, C, and D) of active ingredients which are categorized by the priorities outlined in FIFRA section 4(c)(1). Registrants receive lists of active ingredients and dates for required response. 2) Registrants notify

the Agency of their decision to reregister pesticide products. Registrants identify data gaps or additional data requirements and make a commitment to provide the neces-sary data. 3) Registrants submit data summaries and reformatted versions of selected, previously submitted data. 4) The Agency reviews data and information gathered during Phases 2 and 3. Registrants are notified of any additional data requirements and are expected to make a commitment to satisfy the Agency's requests. 5) The Agency reviews all data and determines whether the pesticide products containing the active ingredient are to be reregistered, or if other regulatory action is appropriate. Time periods for completing each of the five phases are discussed in FIFRA section 4(b-g).

The subsequent pages list in alphabetical order: 1) Registration Standards which have been issued; and 2) Registration Standards which are scheduled to be issued.

REGISTRATION STANDARDS ISSUED

CHEMICAL	TYPE OF CHEMICAL	DATE OF STANDARD	NTIS NUMBER
Acephate	Insecticide	September 1987	PB88-131362
ADBAC (Hyamine 3500) Volume 2	Disinfectant	September 1985 1987	PB86-169406 PB87-138749
Alachlor	Herbicide	November 1984	PB86-179835
Aldicarb	Insecticide	March 1984	PB84-207653
Aldrin	Insecticide	December 1986	PB87-183778
Aliette	Fungicide	June 1983 December 1986	PB84-206564 Not Available
Allethrin Stereoisomers	Insecticide	March 1988	PB88-215231
Aluminum Phosphide	Insecticide	November 1981 October 1986	PB82-137514 PB87-117172
4-Aminopyridine	Bird, Chemo-sterilants, Toxicants and Repellents	September 1980	PB84-209907
Amitraz	Insecticide	October 1987	PB88-128665
Amitrole	Herbicide	March 1984	PB87-104766
Ammonium Sulfamate	Herbicide	April 1981	PB82-133570
Anilazine	Herbicide	December 1983	PB84-168301
Arsenic Acid	Herbicide	September 1986	PB87-101572
Arsenic, Chromium & Chromated Arsenical Compounds	Wood Preservative	June 1988	PB89-102842
Aspon	Insecticide	September 1980	PB84-206549
Asulam	Herbicide	December 1987	PB88-168588
Atrazine	Herbicide	September 1983	PB84-149541
Azinphos-Methyl	Insecticide	September 1986	PB87-111779
Bacillus Thuringiensis	Insecticide	September 1986 December 1988	Not Available PB89-164198

REGISTRATION STANDARDS ISSUED

CHEMICAL	TYPE OF CHEMICAL	DATE OF STANDARD	NTIS NUMBER
Barium Metaborate	Fungicide	July 1983	PB84-168376
Bendiocarb	Insecticide	October 1987	PB89-164172
Benomyl	Fungicide	June 1987	PB89-100150
Bentazon	Herbicide	September 1985	PB86-159563
Bifenox	Herbicide	June 1981	PB83-138818
BKLFI-2	Disinfectant	September 1981	PB82-172263
Boric Acid & Salts	Insecticide	November 1985	PB87-101903
Bromacil	Herbicide	September 1982	PB87-110276
Brominated Salicylanilide	Disinfectant	December 1985	PB86-168150
Butoxycarboxim	Insecticide	December 1981	PB82-177585
Butylate	Herbicide	September 1983 *March 1989	PB85-147304 Not Available
Captafol	Fungicide	September 1984	PB87-104774
Captan	Fungicide	March 1986	PB86-181674
Carbaryl	Insecticide	March 1984	PB84-232602
Carbofuran	Insecticide	July 1984	PB87-105516
Carbophenothion	Insecticide	May 1984	PB87-114229
Carboxin	Fungicide	August 1981	PB82-132994
Chloramben	Herbicide	July 1981	PB82-134347
Chlordane	Insecticide	December 1986	PB87-175816
Chlordimeform HCl	Insecticide	*1985	Not Available
Chlorinated Isocyanurates	Disinfectant	May 1988	PB88-220660
Chlorobenzilate	Insecticide	December 1983	PB85-107605

*Issued as a draft standard

REGISTRATION STANDARDS ISSUED

CHEMICAL	TYPE OF CHEMICAL	DATE OF STANDARD	NTIS NUMBER
Chloroneb	Fungicide	September 1980	PB81-123804
Chloropicrin	Insecticide	December 1982	PB86-182094
Chlorothalonil	Fungicide	October 1984 *September 1988	PB85-247245 Not Available
Chlorpropham	Herbicide	December 1987	PB88-169917
Chlorpyrifos	Insecticide	September 1984 *June 1989	PB87-110284 Not Available
Chlorsulfuron	Herbicide	September 1982	PB85-122505
Chromated & Non-Chromated Arsenicals	Wood Preservative	September 1986 1989	PB87-114088 PB89-102842
Coal Tar/Creosote	Wood Preservative	April 1988	PB88-225255
Copper Compounds [Group II]	Fungicide	April 1987	PB87-190344
Copper Sulfate	Fungicide	March 1986	PB86-236767
Coumaphos	Insecticide	August 1981 September 1989	PB82-133357 Not Available
Cryolite	Insecticide	June 1983 April 1988	PB84-211945 PB88-216866
Cyanazine	Herbicide	December 1984	PB86-175098
Cycloheximide	Fungicide	September 1982	PB84-211945
Cyhexatin	Insecticide	June 1985	PB86-173184
2,4-D	Herbicide	September 1988	PB89-102396
Dalapon	Herbicide	July 1987	PB88-112370
Daminozide	Herbicide	June 1984	PB87-104782
2,4-DB	Herbicide	September 1988	PB89-114177
DCNA	Herbicide	December 1983	PB84-210178

*Issued as a draft standard.

REGISTRATION STANDARDS ISSUED

CHEMICAL	TYPE OF CHEMICAL	DATE OF STANDARD	NTIS NUMBER
DCPA	Herbicide	June 1988	PB88-225263
DEET	Insecticide	December 1980	PB81-207722
Demeton	Insecticide	February 1985	PB86-168820
Dialifor	Insecticide	August 1981	PB82-133638
Diallate	Herbicide	March 1983	PB85-144814
Diazinon	Insecticide	December 1988	PB89-146294
Dicamba	Herbicide	September 1983	PB84-243492
Dichlobenil	Herbicide	March 1987	PB87-184834
Dichlone	Fungicide	January 1981	PB81-207383
1,3-Dichloropropene	Nematicide	September 1986	PB87-111787
Dichlorvos	Insecticide	September 1987	PB88-131354
Dicofol	Insecticide	December 1983	PB84-160084
Dicrotophos	Insecticide	April 1982	PB89-190862
Difenzoquat	Herbicide	December 1988	PB89-162127
Diflubenzuron	Insecticide	September 1985	PB86-176500
Dimethoate	Insecticide	March 1983	PB87-110318
Dioxathion	Insecticide	March 1983	PB85-245033
Diphenamid	Herbicide	June 1987	PB88-113162
Dipropetryn	Herbicide	June 1985	PB86-171147
Diquat Dibromide	Herbicide	June 1986	PB87-105490
Disulfoton	Insecticide	December 1984	PB86-178167
Diuron	Herbicide	September 1983	PB84-210327
Dodine	Disinfectant	February 1987	PB88-124516
2,4-DP	Herbicide	September 1988	PB89-114086
Endosulfan	Insecticide	April 1982	PB82-243999

REGISTRATION STANDARDS ISSUED

CHEMICAL	TYPE OF CHEMICAL	DATE OF STANDARD	NTIS NUMBER
EPN	Insecticide	April 1987	PB87-228474
EPTC	Herbicide	September 1983	PB87-109427
Ethephon	Growth Regulator	September 1988	PB89-109474
Ethion	Insecticide	December 1982 September 1989	PB86-177565 Not Available
Ethoprop	Nematicide	June 1983 June 1988	PB84-210194 PB88-243977
Ethoxyquin	Growth Regulator	March 1981	PB82-131418
2-Ethyl-1,3-Hexanediol	Insecticide	March 1981	PB81-234098
Ethyl Parathion	Insecticide	December 1986	PB87-152120
Fenaminosulf	Fungicide	September 1983	PB86-177573
Fenamiphos	Fungicide	June 1987	PB88-100374
Fenitrothion	Insecticide	July 1987	PB88-191697
Fensulfothion	Insecticide	December 1983	PB85-148963
Fenthion	Insecticide	June 1988	PB88-232350
Fluchloralin	Herbicide	June 1985	PB86-176476
Fluometuron	Herbicide	December 1985	PB87-109435
Folpet	Fungicide	June 1987	PB87-232492
Fonofos	Insecticide	March 1984	PB84-210186
Formaldehyde and Paraformaldehyde	Disinfectant	September 1986 May 1988	Not Available PB88-231543
Formetanate HCl	Insecticide	September 1983	PB84-141456
Fumarin	Rodent Toxicant and Anticoagulant	September 1980	PB81-123812
Glyphosate	Herbicide	July 1986	PB87-103214
Heliothis NPV	Insecticide	June 1984	PB85-134393

REGISTRATION STANDARDS ISSUED

CHEMICAL	TYPE OF CHEMICAL	DATE OF STANDARD	NTIS NUMBER
Heptachlor	Insecticide	December 1986	PB87-175808
Hexazinone	Herbicide	February 1982 September 1988	PB87-110292 PB89-126080
Isopropalin	Herbicide	August 1981	PB82-131293
Lindane	Insecticide	September 1985	PB86-175114
Linuron	Herbicide	June 1984	PB85-149011
Magnesium Phosphide	Insecticide	February 1982 November 1985 October 1986	PB82-195777 Not Available PB87-117172
Malathion	Insecticide	February 1988	PB88-184585
Maleic Hydrazide	Herbicide	June 1988	PB88-236849
Mancozeb	Fungicide	April 1987	PB88-156419
Maneb	Fungicide	October 1988	PB89-124770
MCPA	Herbicide	March 1982 September 1989	PB87-110326 Not Available
MCPP (Mecoprop)	Herbicide	December 1988	PB89-172746
Metalaxyl	Fungicide	August 1981 September 1988	PB82-172297 PB89-128979
Metaldehyde	Molluscicide	December 1988	PB89-161996
Methamidophos	Insecticide	September 1982	PB87-109419
Methidathion	Insecticide	January 1983 *1989	PB87-109419 Not Available
Methiocarb	Insecticide	March 1987	PB87-190898
Methomyl	Insecticide	September 1981 April 1989	PB82-180738 PB89-193957
Methoprene	Insecticide	February 1982	PB87-109443
Methoxychlor	Insecticide	December 1988	PB89-138523

*Issued as a draft standard

REGISTRATION STANDARDS ISSUED

CHEMICAL	TYPE OF CHEMICAL	DATE OF STANDARD	NTIS NUMBER
Methyl Bromide	Disinfectant	August 1986	PB87-105508
Methyl Parathion	Insecticide	December 1986	PB87-139432
Metiram	Fungicide	October 1988	PB89-124663
Metolachlor	Herbicide	September 1980 January 1987	PB81-123280 PB87-158853
Metribuzin	Herbicide	June 1985	PB86-174216
Mevinphos	Insecticide	March 1988	PB88-215249
Monocrotophos	Insecticide	September 1985	PB86-173895
Monuron	Herbicide	July 1983	PB89-193965
Monuron TCA	Herbicide	July 1983	PB84-166669
Nabam	Fungicide	April 1987	PB88-192745
Naled	Insecticide	June 1983	PB84-158980
Naphthalene	Insecticide	September 1981	PB82-139437
Naphthaleneacetic Acid and Salts	Growth Regulator	July 1981 1988	PB82-131145 PB88-180492
Naptalam	Insecticide	March 1985	PB86-173861
Nitrapyrin	Herbicide	June 1985	PB86-176468
Norflurazon	Herbicide	December 1984	PB86-135159
OBPA	Fungicide	October 1981	PB82-172271
Oryzalin	Herbicide	*June 1987	Not Available
Oxamyl	Insecticide	June 1987	PB87-228102
Oxydemeton-Methyl	Insecticide	September 1987	PB89-141071
Oxytetracycline	Fungicide	December 1988	PB89-138556
Paraquat Dichloride	Herbicide	June 1987 May 1988	PB87-228524 PB88-217005

*Issued as a draft standard

REGISTRATION STANDARDS ISSUED

CHEMICAL	TYPE OF CHEMICAL	DATE OF STANDARD	NTIS NUMBER
PCNB	Fungicide	January 1987	PB88-101126
Pendimethalin	Herbicide	March 1985	PB86-172814
Perfluidone	Herbicide	September 1985	PB86-173879
Phenmedipham	Herbicide	March 1987	PB89-108690
Phorate	Insecticide	August 1984 December 1988	PB87-109383 PB89-141337
Phosalone	Insecticide	September 1981 November 1987	PB82-131731 PB88-148044
Phosmet	Insecticide	September 1986	PB87-116620
Phosphamidon	Insecticide	December 1987	PB88-174412
Picloram	Herbicide	March 1985 September 1988	PB86-173887 PB89-159834
Potassium Bromide	Disinfectant	September 1984	PB89-187256
Potassium Permanganate	Disinfectant	September 1985	PB86-173135
Prometryn	Herbicide	March 1987	PB87-184826
Pronamide	Herbicide	April 1986	PB87-103735
Propachlor	Herbicide	December 1984	PB86-174182
Propanil	Herbicide	December 1987	PB88-167010
Propargite	Insecticide	September 1986	PB87-139358
Propazine	Herbicide	December 1988	PB89-162101
Propham	Herbicide	March 1987	PB87-202347
Resmethrin	Synthetic Pyrethroid	December 1988	PB89-164214
Rotenone	Insecticide	October 1988	PB89-173736
Simazine	Herbicide	March 1984	PB84-212349
Sodium and Calcium Hypochlorites	Disinfectant	February 1986	PB87-103222

REGISTRATION STANDARDS ISSUED

CHEMICAL	TYPE OF CHEMICAL	DATE OF STANDARD	NTIS NUMBER
Sodium Omadine	Disinfectant	July 1985	PB86-173929
Streptomycin	Fungicide	September 1988	PB89-129738
Sulfotepp	Insecticide	September 1988	PB89-128995
Sulfur	Fungicide	December 1982	PB86-102043
Sulfuryl Fluoride	Disinfectant	June 1985	PB86-173937
Sulprofos	Insecticide	August 1981	PB82-133646
Sumithrin	Insecticide	November 1987	PB88-156732
Tebuthiuron	Herbicide	July 1987	PB87-235016
Temephos	Insecticide	August 1981	PB82-140641
Terbacil	Herbicide	May 1982 August 1989	PB85-120186 PB90-107079
Terbufos	Insecticide	June 1983 September 1988	PB84-210335 PB89-109490
Terbutryn	Herbicide	September 1986	PB87-143038
Terrazole	Fungicide	September 1980	PB81-126716
Tetrachlorvinphos	Insecticide	October 1988	PB89-126056
Thiophanate-Ethyl	Fungicide	December 1985	PB87-101283
Thiophanate-Methyl	Fungicide	*October 1986	Not Available
Thiram	Fungicide	June 1984	PB85-102705
TPTH	Fungicide	September 1984	PB85-248797
Trichlorfon	Insecticide	June 1984	PB85-149300
Trifluralin	Herbicide	April 1987	PB87-201935
Trimethacarb	Insecticide	September 1985	PB86-169414
Vendex	Insecticide	March 1987	PB87-190690

*Issued as a draft standard

REGISTRATION STANDARDS ISSUED

CHEMICAL	TYPE OF CHEMICAL	DATE OF STANDARD	NTIS NUMBER
Warfarin & Sodium Salt	Rodent Toxicant and Anti-coagulant	August 1981 *April 1989	PB82-140716 Not Available
Zinc Phosphide	Rodent Toxicant and Anticoagulant	June 1982	PB85-102499

*Issued as a draft standard

REGISTRATION STANDARDS SCHEDULED TO BE ISSUED

CHEMICAL	TYPE OF CHEMICAL	EXPECTED DATE
Atrazine	Herbicide	Second Round Review still in progress.
Chlorothalonil	Fungicide	The final standard (FRSTR) is scheduled to be signed during the first quarter of FY '90.
Simazine	Herbicide	Second Round Review still in progress.
Warfarin & Sodium Salt	Rodent Toxicant and Anticoagulant	The final standard (FRSTR) is scheduled to be issued during the first quarter of FY '90.

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OF
CHEMICALS IN THE SPECIAL REVIEW PROGRAM
AND
REGISTRATION STANDARDS IN THE REREGISTRATION PROGRAM

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